

Numerical simulation of a mold-cooling process

Setting:

- The cooling process in the injection molding takes almost 50% of the whole injection cycle.
- Previous investigations on the simulation of a cooling process validated the application of the non-linear solidification physics utilizing the Finite Cell Method.
- The weak boundary conditions between the ingot and the mold domains remain a crucial aspect in the correct numerical results.

Project Characteristics

Modeling:	★★★★☆
Mathematics:	★☆☆☆☆
Programming:	★★★★★
Science:	★☆☆☆☆

Tasks:

- Get familiar with the implementation of the non-linear solidification physics in AdhoC++
- Test and validate the weak boundary enforcement between two meshes, depending on the input type of the geometry (e.g. stl, stp or implicit AdhoC++ description)
- Validate the numerical results with the results obtained by Moldflow (Autodesk, Inc.)

